



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,966	09/20/2001	Gregory S. Andre	017750-413	1908
21839 7590 04/03/2007 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER AHN, SAM K	
			ART UNIT	PAPER NUMBER
			2611	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/03/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

54

Office Action Summary

Application No.

09/955,966

Applicant(s)

ANDRE ET AL.

Examiner

Sam K. Ahn

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 03/07/07 have been fully considered but they are not persuasive. Please note the rejection below in regards to response to the applicants' argument.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bastiani et al., USP 6,609,167 B1 (Bastiani, cited previously) in view of Wilson et al. USP 6,718,413 B1 (Wilson, cited previously).

Regarding claim 1, Bastiani teaches a transceiver (172 in Fig.10) for use within a multi-tier system bus configuration comprising: means for independently receiving and transmitting instructions (Host Controller 368 in Fig.41 independently transmitting and receiving via Tx Rx elements 372) via a system bus (166 in Fig.10) from one or more peripheral devices (106 in Fig.10, note col.1, lines 30-42) connected to the system bus, means for buffering instructions received and transmitted (354, 356, 358, 360, 362, 364, 366 in Fig.41) via the

Art Unit: 2611

system bus (166 in Fig.10) to provide a separate buffering of control actions (wherein control actions are interrupts, 362,366 in Fig.41) from DMA operations (356,358,360 in Fig.41, wherein the DMA and Control Action buffering is coupled to the transceiver Tx Rx 372, one skilled in the art at the time the invention was made would recognize that the buffering takes place for both receiving and transmitting where reading and writing from and out of memory or buffer is implemented by address locations in a memory or buffer), wherein said means for independently receiving instructions is configured to discriminate between different types of input, and wherein said means for independently transmitting instructions is configured to interleave said instructions (as taught by Bastiani, DMA instructions are buffered in 356,358,360 elements, while HCI instructions including interrupt are buffered in a separate memory (362,364,366), thus discriminating and interleaving the packets being transmitted and received (note col.48, lines 50-67).

Applicants' argument: "The Bastiani et al. patent does not relate to a transmitter and receiver that operate between a local processor bus and a system bus.

Rather, what is shown in Fig. 41 of the Bastiani et al. patent is an advanced serial protocol (ASP) controller connected between a PCI interface (352) on one side, and a plurality of serial transceivers (372). These transceivers (372) are ENDEC transceivers for serial data transmission (col. 48. lines 62-65)."

Examiner's position: *And further, the buffering instructions explained above, are transmitted and received between the Tx Rx 372 and PCI Interface 352 in Fig.41,*

which are coupled to the ASP Bus (wherein this bus is interpreted as a local processor bus) and the system bus (164 in Fig.10), respectively.

However, Bastiani does not explicitly teach wherein access to the multi-tier system bus is arbitrated such that control actions preempt DMA operations.

Wilson teaches, in the same field of endeavor, wherein access to the multi-tier system bus (308 in Fig.3) is arbitrated (note col.3, line 66 – col.4, line 12, wherein different peripheral devices are arbitrating for the system bus) such that control actions preempt DMA operations (note col.10, lines 57-65, wherein interrupts or control actions preempt DMA operations or operations to execute transferring of data to the system bus, 308).

Hence, both Bastiani and Wilson teach DMA operations and control actions wherein Wilson further teaches wherein interrupts or control actions preempt DMA operations or operations to execute transferring of data to the system bus, 308), thus results in

reducing the number of interrupts, as taught by Wilson (note col.3, line 66 – col.4, line 12). Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the teaching of Wilson in the system of Bastiani by having the function of arbitrating in the host controller (104a in Fig.10 of Bastiani) during the arbitrating phase (402,414 in Fig.2 of Wilson) for the purpose of reducing the number of interrupts, as taught by Wilson (note col.3, line 66 – col.4, line 12).

Art Unit: 2611

Regarding claim 2, Bastiani further teaches wherein said means for independently transmitting is configured to interleave and discriminate the instructions based upon instruction type (wherein the instruction types are divided between DMA and HCI, as explained above).

Regarding claim 3, Bastiani further teaches wherein said instructions are contained within packets and said means for independently transmitting and receiving is configured to interleave and discriminate the instructions based upon packet type (as separate memories or buffers are implemented depending on the packet type).

Regarding claim 4, Bastiani further teaches wherein said packets comprise DMA and CA (control action or control interrupt or HCI) packet types (note col.48, lines 57-59).

Regarding claim 5, the claim is rejected as applied to claim 2 with similar scope.

Regarding claim 6, the claim is rejected as applied to claim 3 with similar scope.

Regarding claim 7, the claim is rejected as applied to claim 4 with similar scope.

Regarding claim 8, Bastiani further teaches wherein said means for receiving is configured to provide specialized control functions, such as a reset function (see Fig.26 and note col.42, lines 26-28).

1. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bastiani et al., USP 6,609,167 B1 (Bastiani, cited previously) in view of Wilson et al. USP 6,718,413 B1 (Wilson, cited previously) and Gephardt et al., USP 5,555,430 (Gephardt, cited previously).

Regarding claim 9, Bastiani in view of Wilson teach all subject matter claimed, as applied to claim 8. As explained previously, Bastiani further teaches said specialized control functions, such as a reset function. However, Bastiani does not explicitly teach further control functions of a timer function and a broadcast function.

Gephardt teaches in the same field of endeavor, having a system bus wherein packets are transmitted and received from the system bus and further teaches such control functions of the timer (timer latency) and broadcast (broadcast interrupt) functions (note col.22, line 61 – col.23, line 17). Therefore, it would have been obvious to one skilled in the art at the time of the invention to include the functions of timer and broadcast, as taught by Gephardt in Bastiani's system for the purpose of increasing the control functions, and thus provide the system with a more controllable system through the control functions.

Art Unit: 2611

Conclusion

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phan Cong Tran 03/30/07
KHANH TRAN
Primary Examiner

Sam K. Ahn
Patent Examiner
3/30/07